



July 14, 2021

Craig Thomas
On-Scene Coordinator
U.S. Environmental Protection Agency Region 5
Superfund and Emergency Management Division
77 W Jackson Blvd
Chicago, IL 60604

Subject: Data Validation Reports
Chemtool Fire Site - RS
EPA Contract No.: 68HE0519D0005
Task Order/Task Order Line Item No.: 68HE0520F0032/0001CF104
Document Tracking No. 0755

Dear Mr. Thomas:

Tetra Tech, Inc. (Tetra Tech) is submitting these data validation reports for eight (8) air samples collected at the Chemtool Fire site. The samples were collected June 14 - June 17, 2021, and were analyzed for volatile organic compounds by ALS Environmental. The final laboratory data package was received on June 25, 2021.

Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (January 2017).

No results were rejected other than results for a system contaminant tentatively identified compound (TIC). Based on the findings of this validation effort, all results may be used as qualified in this report.

If you have any questions regarding this data validation report, please call me at (509) 688-5957.

Sincerely,

A handwritten signature in blue ink that reads 'Deb Kutsal'.

Deb Kutsal
Senior Chemist

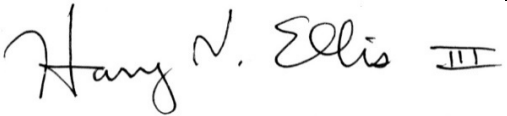
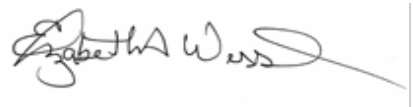
Enclosure

cc: Chris Burns, Tetra Tech Program Manager
Cordell Renner, Tetra Tech Project Manager
Connie Rodriguez, Tetra Tech Project Document Control Coordinator
TO-TOLIN File

ATTACHMENT 1

**DATA VALIDATION REPORTS
ALS ENVIRONMENTAL REPORT NOS. P2103220, P2103221,
P2103254, AND P2103278**

DATA VALIDATION CHECKLIST – STAGE 3

Site Name	Chemtool Fire Site - RS	Project No.	103X903100320001CF104
Document Tracking No.	0755A	Technical Reviewer (signature and date)	 12 July 2021
Data Reviewer (signature and date)	 July 6, 2021	Laboratory	ALS Environmental/Simi Valley, CA
Laboratory Report No.	P2103220	Analyses	
		Volatile organic compounds by EPA TO-15 and TO-15 SIM	
Samples and Matrix	3 air samples		
Field Duplicate Pairs	None		
Field Blanks	None		

INTRODUCTION

This checklist summarizes the Stage 3 validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with START QAPP? *EPA Compendium Method TO-15*, and the *EPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (January 2017).

OVERALL EVALUATION

No rejection of results was required for this data package other than a system contaminant tentatively identified compound (TIC). The results may be used as qualified based on the findings of this validation effort.

Data completeness:

Within Criteria	Exceedance/Notes
Y	



DATA VALIDATION CHECKLIST – STAGE 3

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

Instrument Performance Checks:

Within Criteria	Exceedance/Notes
Y	

Initial Calibration:

Within Criteria	Exceedance/Notes
Y	

Continuing Calibration:

Within Criteria	Exceedance/Notes
N	Chloromethane had a low response (61.1%D) in the SIM CCV. Chloromethane was qualified as an estimated detect with a potential negative bias (flagged J-) in the site samples.

Calibration Verification:

Within Criteria	Exceedance/Notes
Y	The laboratory noted that the ICV failed high for 1,3-butadiene; however, the reviewer calculated the %D within 30%.



DATA VALIDATION CHECKLIST – STAGE 3

Method blanks:

Within Criteria	Exceedance/Notes
N	Acetone, benzene and toluene were detected in the method blank. The sample results were > than 10× the amount in the blank with the exception of toluene in sample RCF-IDOT-210614. Toluene was qualified as a nondetect at the level of contamination in that site sample.

Field blanks:

Within Criteria	Exceedance/Notes
NA	

Interference Check Samples (ICS) (ICP metals only):

Within Criteria	Exceedance/Notes
NA	

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
Y	

MS/MSD:

Within Criteria	Exceedance/Notes
NA	

Post digestion spikes:

Within Criteria	Exceedance/Notes
NA	



DATA VALIDATION CHECKLIST – STAGE 3

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Serial dilutions:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
NA	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
N	Chloromethane had a low recovery (26%) in the SIM LCS. Chloromethane was qualified as an estimated detect with a potential negative bias (flagged J-) in the site samples.

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	



DATA VALIDATION CHECKLIST – STAGE 3

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

Second column confirmation (GC and HPLC analyses only):

Within Criteria	Exceedance/Notes
NA	

Internal Standards:

Within Criteria	Exceedance/Notes
Y	

Target analyte identification:

Within Criteria	Exceedance/Notes
Y	

Analyte quantitation and MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Sample results were verified; results were found to be acceptable. Refer to calculation verification spreadsheets. MDLs are not reported in the EDD or laboratory report. Nondetects are reported to the RL.

DATA VALIDATION CHECKLIST – STAGE 3

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
Y	The following TICs were identified in the site samples although the qualitative fit was less than 85: n-Nonaldehyde in RCF-Facility-210614, n-butane and 2-ethyl-1-hexanol in RCF-309T-21061614 and acetaldehyde in RCF-IDOT-210614. According to the NFG, these compounds could have been reported as unknowns. The reviewer did not change the TICs; however, the data user should be aware of the quality of the identification. The unknown siloxane in RCF-IDOT-210614 was rejected as a system contaminant.

System performance and instrument stability:

Within Criteria	Exceedance/Notes
NA	

Other [specify]:

Within Criteria	Exceedance/Notes
NA	

DATA VALIDATION CHECKLIST – STAGE 3

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

STAGE 3/4 DATA VALIDATION CHECKLIST FOR RECALCULATIONS

Data Package Number: P2103220

Validation Element	Objective	Sample ID, Run Date, and Run Time	Results (include units) and Notes (Use check mark to indicate correct result; include hand-calculated result if performed)
Initial Calibration	Confirm (in raw data) that an initial calibration begins each analytical sequence, before all QC or env. samples are analyzed, using the correct number of standards (and calibration blank, if required).	16 May 2021 instrument MS19 07:55 – 13:14 7-8-point calibration	See calibration spreadsheet
	Confirm (in raw data) that an initial calibration occurs at the required frequency.	Yes	
	Confirm that initial calibration criteria are met. Spot-recalculate initial calibration results.	reported 4.226 benzene	Calculated RRF: high-level 52000 ng std $(6190697 * 1000) / (28174 * 52000) = 4.22559$
			Calculated \overline{RRF} : See calibration spreadsheet
			Calculated %RSD: See calibration spreadsheet
	<p>Recalculate at least one result (and %R or %D values, as appropriate) from each of the following QC samples and environmental samples, and compare your calculated results with the results the laboratory reports on their summary forms found earlier in the data package. They should agree. If they do not, then there may be problems with the package and further review is required. Note that for some QC samples, your comparison may mean simply confirming that the result reported in the summary form matches the result in the raw data – there may not be any calculation.</p> <p style="text-align: right;">SHOW ALL WORK FOR RECALCULATIONS</p>		
Tune	Confirm BFB Percent Relative Abundance	6/16/2021 2:33 mass 174 reported 98.8%	7090/7180*100=98.746%

STAGE 3/4 DATA VALIDATION CHECKLIST FOR RECALCULATIONS

Data Package Number: P2103220

Validation Element	Objective	Sample ID, Run Date, and Run Time	Results (include units) and Notes (Use check mark to indicate correct result; include hand-calculated result if performed)
ICV	Check result	S19061621 16 June 2021 2:54	See calibration spreadsheet
	Recalculate one RRF		
	Recalculate one %R		
A CCV applicable to our samples	Check result	S19061621 16 June 2021 2:54	See calibration spreadsheet
	Recalculate one RRF		
	Recalculate one %D		
Method Blank	Check result	S19061621 16 June 4:29	acetone 136.696 benzene 10.439 toluene 6.696
Surrogate	Recalculate one %R	16 June 2021 19:35 RCF-309T-210614 Toluene - d 8 reported 102%	$1017.413/1000 \times 100 = 101.74\%$
MS	Check result	N/A	
	Recalculate one %R	N/A	
MSD	Check result	N/A	
	Recalculate one %R	N/A	
	Recalculate one RPD value between MS and MSD	N/A	

STAGE 3/4 DATA VALIDATION CHECKLIST FOR RECALCULATIONS

Data Package Number: P2103220

Validation Element	Objective	Sample ID, Run Date, and Run Time	Results (include units) and Notes (Use check mark to indicate correct result; include hand-calculated result if performed)
LCS	Check result	S19061621 1000pg 16 June 2021 5:01	
	Recalculate one %R	benzene reported 101%	20.7/20.4*100=101.47%
LCSD	Check result	NA	
	Recalculate one %R	NA	
	Recalculate one RPD value between LCS and LCSD	NA	
Internal Standards	Recalculate one %R	bromochloromethane RCF-IDOT-210614	16435/16808=97.8%
	Recalculate one delta RT	bromochloromethane RCF-IDOT-210614	9.61-9.61=0.00 min.
Sample Result for RCF-Facility-210614 benzene	Check result	5/8/2021 00:11 reported 1.4 ug/m3	See calibration spreadsheet 914.428*1.48=1.353 ug/m3
MDL for __ not reported in data__	Check result	NA	
RL for __RCF-Facility-210614 benzene__	Check result	reported 0.11 ug/m3	nominal MB RL 0.075 ug/m3 1.48= 0.111 (rounding)
Convert µg/m³ to ppbV (air only) for	Check result	1.4 ug/m3	0.4382281 ppbv lab reported 0.42 ppbv (rounding) (EPA On-line tools for Site Assessment Calculation)

ICAL TO-15SIM MS19 16May2021
Benzene

Input Calibration Data					Relative Errors in X					
Amount	Response	ISTD Amt	ISTD Resp	Rel. Resp.	Average	Linear (1/x2)	Linear (1/X)	Linear Forced	Linear	Quadratic
20.8	1780	1000.0	16982	104.82	10.52%	-1.06%	-13.00%	17.98%	-892.93%	-44.39%
52.0	4489	1000.0	16854	266.35	12.33%	9.54%	6.66%	19.92%	-344.07%	-9.35%
104.0	7529	1000.0	18448	408.12	-13.94%	-14.53%	-15.14%	-8.12%	-189.96%	-24.66%
520.0	41143	1000.0	17242	2386.21	0.64%	2.77%	4.97%	7.44%	-28.47%	-1.11%
1040.0	81570	1000.0	17693	4610.30	-2.78%	-0.45%	1.95%	3.79%	-13.91%	-3.37%
5200.0	556853	1000.0	20516	27142.38	14.47%	17.50%	20.62%	22.20%	19.19%	15.63%
10400.0	916630	1000.0	21865	41922.25	-11.60%	-9.24%	-6.81%	-5.63%	-6.96%	-10.25%
26000.0	2886825	1000.0	24928	115806.52	-2.32%	0.31%	3.01%	4.28%	4.09%	1.57%
52000.0	6190697	1000.0	28174	219730.85	-7.33%	-4.84%	-2.26%	-1.07%	-0.93%	-0.14%
RSE in X:					10.4%	10.2%	11.7%	13.2%	369.0%	22.5%

Curve Fit Statistics						Sample Results				
		1 st Degree	2 nd Degree							
		Constant	Coefficient	Coefficient	X-Intercept	r ²	r			
Weighted (1/Amt^2)										
Average		4.5598E+00		0	0.99453	0.99726				
Linear	1.3445E+01	4.4400E+00		-3.03	0.99649	0.99824				
Weighted (1/Amt)										
Linear	2.6586E+01	4.3230E+00		-6.15	0.99849	0.99925				
Unweighted										
Forced Zero		4.2713E+00		0	0.99908	0.99954				
Linear	8.0567E+02	4.2494E+00		-189.60	0.99879	0.99940				
Quadratic	5.2285E+01	4.5417E+00	-5.9946E-06	-11.51	0.99915	0.99957				
		c	b	a						

CHEMTOOL FIRE SITE - RS AIR ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. P2103220

Sample ID	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val_Result	Val_Qual
RCF-309T-210614	1,1,1-Trichloroethane	ND	ND	0.0077	0.033	UG/M3	0.033	U
RCF-309T-210614	1,1,2,2-Tetrachloroethane	ND	ND	0.0094	0.033	UG/M3	0.033	U
RCF-309T-210614	1,1,2-Trichloroethane	ND	ND	0.010	0.13	UG/M3	0.13	U
RCF-309T-210614	1,1,2-Trichlorotrifluoroethane	0.47	=	0.012	0.033	UG/M3	0.47	
RCF-309T-210614	1,1-Dichloroethane	ND	ND	0.0079	0.033	UG/M3	0.033	U
RCF-309T-210614	1,1-Dichloroethene	ND	ND	0.011	0.033	UG/M3	0.033	U
RCF-309T-210614	1,2,4-Trichlorobenzene	ND	ND	0.017	0.065	UG/M3	0.065	U
RCF-309T-210614	1,2,4-Trimethylbenzene	0.20	=	0.011	0.13	UG/M3	0.20	
RCF-309T-210614	1,2-Dibromo 3-Chloropropane	ND	ND	0.012	0.13	UG/M3	0.13	U
RCF-309T-210614	1,2-Dibromoethane	ND	ND	0.010	0.033	UG/M3	0.033	U
RCF-309T-210614	1,2-Dichlorobenzene	ND	ND	0.011	0.033	UG/M3	0.033	U
RCF-309T-210614	1,2-Dichloroethane	0.067	=	0.011	0.033	UG/M3	0.067	
RCF-309T-210614	1,2-Dichloropropane	ND	ND	0.0095	0.033	UG/M3	0.033	U
RCF-309T-210614	1,3,5-Trimethylbenzene	ND	ND	0.0095	0.13	UG/M3	0.13	U
RCF-309T-210614	1,3-Butadiene	ND	ND	0.018	0.065	UG/M3	0.065	U
RCF-309T-210614	1,3-Dichlorobenzene	ND	ND	0.011	0.033	UG/M3	0.033	U
RCF-309T-210614	1,4-Dichlorobenzene	ND	ND	0.011	0.033	UG/M3	0.033	U
RCF-309T-210614	1,4-Dioxane	ND	ND	0.011	0.13	UG/M3	0.13	U
RCF-309T-210614	2-Ethyl-1-hexanol	4.0	T			UG/M3	4.0	NJ
RCF-309T-210614	Acetic Acid	5.6	T			UG/M3	5.6	NJ
RCF-309T-210614	Acetone	9.1	=	0.073	3.3	UG/M3	9.1	
RCF-309T-210614	Acrolein	0.33	=	0.051	0.26	UG/M3	0.33	
RCF-309T-210614	Benzene	0.32	=	0.026	0.098	UG/M3	0.32	
RCF-309T-210614	Bromodichloromethane	ND	ND	0.0090	0.033	UG/M3	0.033	U
RCF-309T-210614	Bromomethane	ND	ND	0.012	0.033	UG/M3	0.033	U
RCF-309T-210614	Carbon Tetrachloride	0.41	=	0.016	0.033	UG/M3	0.41	
RCF-309T-210614	Chlorobenzene	ND	ND	0.012	0.13	UG/M3	0.13	U
RCF-309T-210614	Chloroethane	ND	ND	0.011	0.033	UG/M3	0.033	U
RCF-309T-210614	Chloroform	0.18	=	0.023	0.13	UG/M3	0.18	
RCF-309T-210614	Chloromethane	0.096	=,V	0.025	0.065	UG/M3	0.096	J-
RCF-309T-210614	cis-1,2-Dichloroethene	ND	ND	0.012	0.033	UG/M3	0.033	U
RCF-309T-210614	cis-1,3-Dichloropropene	ND	ND	0.0081	0.065	UG/M3	0.065	U
RCF-309T-210614	Dibromochloromethane	ND	ND	0.011	0.033	UG/M3	0.033	U
RCF-309T-210614	Dichlorodifluoromethane (CFC 12)	1.9	=	0.022	0.065	UG/M3	1.9	

CHEMTOOL FIRE SITE - RS AIR ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. P2103220

Sample ID	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val_Result	Val_Qual
RCF-309T-210614	Dichloromethane (Methylene Chloride)	0.50	=	0.017	0.13	UG/M3	0.50	
RCF-309T-210614	Ethylbenzene	0.17	=	0.013	0.13	UG/M3	0.17	
RCF-309T-210614	Hexachlorobutadiene	ND	ND	0.012	0.13	UG/M3	0.13	U
RCF-309T-210614	m,p-Xylenes	0.58	=	0.025	0.13	UG/M3	0.58	
RCF-309T-210614	Methyl tert-Butyl Ether	ND	ND	0.012	0.033	UG/M3	0.033	U
RCF-309T-210614	Naphthalene	0.17	=	0.021	0.13	UG/M3	0.17	
RCF-309T-210614	n-Butane	2.7	T			UG/M3	2.7	NJ
RCF-309T-210614	n-Nonaldehyde	14	T			UG/M3	14	NJ
RCF-309T-210614	o-Xylene	0.22	=	0.012	0.13	UG/M3	0.22	
RCF-309T-210614	Styrene	ND	ND	0.0096	0.13	UG/M3	0.13	U
RCF-309T-210614	Tetrachloroethene	0.050	=	0.011	0.033	UG/M3	0.050	
RCF-309T-210614	Toluene	0.99	=	0.014	0.13	UG/M3	0.99	
RCF-309T-210614	trans-1,2-Dichloroethene	ND	ND	0.0095	0.033	UG/M3	0.033	U
RCF-309T-210614	trans-1,3-Dichloropropene	ND	ND	0.0072	0.065	UG/M3	0.065	U
RCF-309T-210614	Trichloroethene	ND	ND	0.011	0.033	UG/M3	0.033	U
RCF-309T-210614	Trichlorofluoromethane	1.2	=	0.020	0.065	UG/M3	1.2	
RCF-309T-210614	Vinyl Chloride	ND	ND	0.0099	0.033	UG/M3	0.033	U
RCF-Facility-210614	1,1,1-Trichloroethane	ND	ND	0.0087	0.037	UG/M3	0.037	U
RCF-Facility-210614	1,1,2,2-Tetrachloroethane	ND	ND	0.011	0.037	UG/M3	0.037	U
RCF-Facility-210614	1,1,2-Trichloroethane	ND	ND	0.012	0.15	UG/M3	0.15	U
RCF-Facility-210614	1,1,2-Trichlorotrifluoroethane	0.47	=	0.013	0.037	UG/M3	0.47	
RCF-Facility-210614	1,1-Dichloroethane	ND	ND	0.0090	0.037	UG/M3	0.037	U
RCF-Facility-210614	1,1-Dichloroethene	ND	ND	0.013	0.037	UG/M3	0.037	U
RCF-Facility-210614	1,2,4-Trichlorobenzene	ND	ND	0.019	0.074	UG/M3	0.074	U
RCF-Facility-210614	1,2,4-Trimethylbenzene	0.23	=	0.012	0.15	UG/M3	0.23	
RCF-Facility-210614	1,2-Dibromo 3-Chloropropane	ND	ND	0.014	0.15	UG/M3	0.15	U
RCF-Facility-210614	1,2-Dibromoethane	ND	ND	0.012	0.037	UG/M3	0.037	U
RCF-Facility-210614	1,2-Dichlorobenzene	ND	ND	0.012	0.037	UG/M3	0.037	U
RCF-Facility-210614	1,2-Dichloroethane	0.064	=	0.012	0.037	UG/M3	0.064	
RCF-Facility-210614	1,2-Dichloropropane	ND	ND	0.011	0.037	UG/M3	0.037	U
RCF-Facility-210614	1,3,5-Trimethylbenzene	ND	ND	0.011	0.15	UG/M3	0.15	U
RCF-Facility-210614	1,3-Butadiene	0.43	=	0.021	0.074	UG/M3	0.43	
RCF-Facility-210614	1,3-Dichlorobenzene	ND	ND	0.013	0.037	UG/M3	0.037	U
RCF-Facility-210614	1,4-Dichlorobenzene	ND	ND	0.012	0.037	UG/M3	0.037	U

CHEMTOOL FIRE SITE - RS AIR ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. P2103220

Sample ID	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val_Result	Val_Qual
RCF-Facility-210614	1,4-Dioxane	ND	ND	0.013	0.15	UG/M3	0.15	U
RCF-Facility-210614	Acetone	8.5	=	0.083	3.7	UG/M3	8.5	
RCF-Facility-210614	Acrolein	0.42	=	0.058	0.30	UG/M3	0.42	
RCF-Facility-210614	Benzene	1.4	=	0.030	0.11	UG/M3	1.4	
RCF-Facility-210614	Bromodichloromethane	ND	ND	0.010	0.037	UG/M3	0.037	U
RCF-Facility-210614	Bromomethane	ND	ND	0.014	0.037	UG/M3	0.037	U
RCF-Facility-210614	Carbon Tetrachloride	0.40	=	0.018	0.037	UG/M3	0.40	
RCF-Facility-210614	Chlorobenzene	ND	ND	0.014	0.15	UG/M3	0.15	U
RCF-Facility-210614	Chloroethane	ND	ND	0.013	0.037	UG/M3	0.037	U
RCF-Facility-210614	Chloroform	ND	ND	0.027	0.15	UG/M3	0.15	U
RCF-Facility-210614	Chloromethane	0.086	=,V	0.028	0.074	UG/M3	0.086	J-
RCF-Facility-210614	cis-1,2-Dichloroethene	ND	ND	0.014	0.037	UG/M3	0.037	U
RCF-Facility-210614	cis-1,3-Dichloropropene	ND	ND	0.0092	0.074	UG/M3	0.074	U
RCF-Facility-210614	Dibromochloromethane	ND	ND	0.013	0.037	UG/M3	0.037	U
RCF-Facility-210614	Dichlorodifluoromethane (CFC 12)	1.8	=	0.025	0.074	UG/M3	1.8	
RCF-Facility-210614	Dichloromethane (Methylene Chloride)	0.31	=	0.019	0.15	UG/M3	0.31	
RCF-Facility-210614	Ethylbenzene	0.24	=	0.014	0.15	UG/M3	0.24	
RCF-Facility-210614	Hexachlorobutadiene	ND	ND	0.014	0.15	UG/M3	0.15	U
RCF-Facility-210614	m,p-Xylenes	0.73	=	0.028	0.15	UG/M3	0.73	
RCF-Facility-210614	Methyl tert-Butyl Ether	ND	ND	0.014	0.037	UG/M3	0.037	U
RCF-Facility-210614	Naphthalene	0.25	=	0.024	0.15	UG/M3	0.25	
RCF-Facility-210614	n-Nonaldehyde	8.8	T			UG/M3	8.8	NJ
RCF-Facility-210614	n-Pentane	2.8	T			UG/M3	2.8	NJ
RCF-Facility-210614	o-Xylene	0.27	=	0.013	0.15	UG/M3	0.27	
RCF-Facility-210614	Styrene	ND	ND	0.011	0.15	UG/M3	0.15	U
RCF-Facility-210614	Tetrachloroethene	0.065	=	0.012	0.037	UG/M3	0.065	
RCF-Facility-210614	Toluene	1.5	=	0.016	0.15	UG/M3	1.5	
RCF-Facility-210614	trans-1,2-Dichloroethene	ND	ND	0.011	0.037	UG/M3	0.037	U
RCF-Facility-210614	trans-1,3-Dichloropropene	ND	ND	0.0081	0.074	UG/M3	0.074	U
RCF-Facility-210614	Trichloroethene	ND	ND	0.013	0.037	UG/M3	0.037	U
RCF-Facility-210614	Trichlorofluoromethane	1.1	=	0.022	0.074	UG/M3	1.1	
RCF-Facility-210614	Vinyl Chloride	ND	ND	0.011	0.037	UG/M3	0.037	U
RCF-IDOT-210614	1,1,1-Trichloroethane	ND	ND	0.0071	0.030	UG/M3	0.030	U
RCF-IDOT-210614	1,1,2,2-Tetrachloroethane	ND	ND	0.0087	0.030	UG/M3	0.030	U

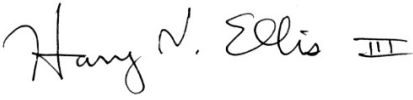
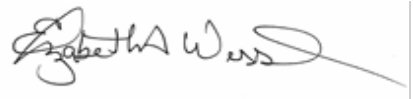
CHEMTOOL FIRE SITE - RS AIR ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. P2103220

Sample ID	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val_Result	Val_Qual
RCF-IDOT-210614	1,1,2-Trichloroethane	ND	ND	0.0096	0.12	UG/M3	0.12	U
RCF-IDOT-210614	1,1,2-Trichlorotrifluoroethane	0.47	=	0.011	0.030	UG/M3	0.47	
RCF-IDOT-210614	1,1-Dichloroethane	ND	ND	0.0074	0.030	UG/M3	0.030	U
RCF-IDOT-210614	1,1-Dichloroethene	ND	ND	0.010	0.030	UG/M3	0.030	U
RCF-IDOT-210614	1,2,4-Trichlorobenzene	ND	ND	0.016	0.061	UG/M3	0.061	U
RCF-IDOT-210614	1,2,4-Trimethylbenzene	0.14	=	0.010	0.12	UG/M3	0.14	
RCF-IDOT-210614	1,2-Dibromo 3-Chloropropane	ND	ND	0.011	0.12	UG/M3	0.12	U
RCF-IDOT-210614	1,2-Dibromoethane	ND	ND	0.0096	0.030	UG/M3	0.030	U
RCF-IDOT-210614	1,2-Dichlorobenzene	ND	ND	0.010	0.030	UG/M3	0.030	U
RCF-IDOT-210614	1,2-Dichloroethane	0.063	=	0.010	0.030	UG/M3	0.063	
RCF-IDOT-210614	1,2-Dichloropropane	ND	ND	0.0088	0.030	UG/M3	0.030	U
RCF-IDOT-210614	1,3,5-Trimethylbenzene	ND	ND	0.0088	0.12	UG/M3	0.12	U
RCF-IDOT-210614	1,3-Butadiene	ND	ND	0.017	0.061	UG/M3	0.061	U
RCF-IDOT-210614	1,3-Dichlorobenzene	ND	ND	0.010	0.030	UG/M3	0.030	U
RCF-IDOT-210614	1,4-Dichlorobenzene	ND	ND	0.0098	0.030	UG/M3	0.030	U
RCF-IDOT-210614	1,4-Dioxane	ND	ND	0.010	0.12	UG/M3	0.12	U
RCF-IDOT-210614	Acetaldehyde	2.3	T			UG/M3	2.3	NJ
RCF-IDOT-210614	Acetone	7.9	=	0.068	3.0	UG/M3	7.9	
RCF-IDOT-210614	Acrolein	0.39	=	0.047	0.24	UG/M3	0.39	
RCF-IDOT-210614	Benzene	0.25	=	0.024	0.091	UG/M3	0.25	
RCF-IDOT-210614	Bromodichloromethane	ND	ND	0.0083	0.030	UG/M3	0.030	U
RCF-IDOT-210614	Bromomethane	ND	ND	0.011	0.030	UG/M3	0.030	U
RCF-IDOT-210614	Carbon Tetrachloride	0.41	=	0.015	0.030	UG/M3	0.41	
RCF-IDOT-210614	Chlorobenzene	ND	ND	0.011	0.12	UG/M3	0.12	U
RCF-IDOT-210614	Chloroethane	ND	ND	0.010	0.030	UG/M3	0.030	U
RCF-IDOT-210614	Chloroform	ND	ND	0.022	0.12	UG/M3	0.12	U
RCF-IDOT-210614	Chloromethane	0.087	=,V	0.023	0.061	UG/M3	0.087	J-
RCF-IDOT-210614	cis-1,2-Dichloroethene	ND	ND	0.011	0.030	UG/M3	0.030	U
RCF-IDOT-210614	cis-1,3-Dichloropropene	ND	ND	0.0075	0.061	UG/M3	0.061	U
RCF-IDOT-210614	Dibromochloromethane	ND	ND	0.011	0.030	UG/M3	0.030	U
RCF-IDOT-210614	Dichlorodifluoromethane (CFC 12)	2.0	=	0.021	0.061	UG/M3	2.0	
RCF-IDOT-210614	Dichloromethane (Methylene Chloride)	0.52	=	0.016	0.12	UG/M3	0.52	
RCF-IDOT-210614	Ethylbenzene	ND	ND	0.012	0.12	UG/M3	0.12	U
RCF-IDOT-210614	Hexachlorobutadiene	ND	ND	0.011	0.12	UG/M3	0.12	U

CHEMTOOL FIRE SITE - RS AIR ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. P2103220

Sample ID	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val_Result	Val_Qual
RCF-IDOT-210614	m,p-Xylenes	0.35	=	0.023	0.12	UG/M3	0.35	
RCF-IDOT-210614	Methyl tert-Butyl Ether	ND	ND	0.011	0.030	UG/M3	0.030	U
RCF-IDOT-210614	Naphthalene	0.16	=	0.019	0.12	UG/M3	0.16	
RCF-IDOT-210614	n-Nonaldehyde	12	T			UG/M3	12	NJ
RCF-IDOT-210614	o-Xylene	0.13	=	0.011	0.12	UG/M3	0.13	
RCF-IDOT-210614	Styrene	ND	ND	0.0090	0.12	UG/M3	0.12	U
RCF-IDOT-210614	Tetrachloroethene	0.034	=	0.0099	0.030	UG/M3	0.034	
RCF-IDOT-210614	Toluene	0.66	=	0.013	0.12	UG/M3	0.66	
RCF-IDOT-210614	trans-1,2-Dichloroethene	ND	ND	0.0088	0.030	UG/M3	0.030	U
RCF-IDOT-210614	trans-1,3-Dichloropropene	ND	ND	0.0067	0.061	UG/M3	0.061	U
RCF-IDOT-210614	Trichloroethene	ND	ND	0.010	0.030	UG/M3	0.030	U
RCF-IDOT-210614	Trichlorofluoromethane	1.2	=	0.018	0.061	UG/M3	1.2	
RCF-IDOT-210614	Tridecane	2.7	T			UG/M3	2.7	NJ
RCF-IDOT-210614	Unknown	3.5	T			UG/M3	3.5	J
RCF-IDOT-210614	Unknown Siloxane	2.9	T			UG/M3	2.9	R
RCF-IDOT-210614	Vinyl Chloride	ND	ND	0.0092	0.030	UG/M3	0.030	U

DATA VALIDATION CHECKLIST – STAGE 3

Site Name	Chemtool Fire Site - RS	Project No.	103X903100320001CF104
Document Tracking No.	0755B	Technical Reviewer (signature and date)	 13 July 2021
Data Reviewer (signature and date)	 July 7, 2021	Laboratory	ALS Environmental/Simi Valley, CA
Laboratory Report No.	P2103221		
Analyses	Volatile organic compounds by EPA TO-15 and TO-15 SIM		
Samples and Matrix	2 air samples		
Field Duplicate Pairs	None		
Field Blanks	None		

INTRODUCTION

This checklist summarizes the Stage 3 validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V)*, *EPA Region 4*, Revision 1 (September 2019), *EPA Compendium Method TO-15*, and the *EPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (January 2017).

OVERALL EVALUATION

No rejection of results was required for this data package. The results may be used as qualified based on the findings of this validation effort.

Data completeness:

Within Criteria	Exceedance/Notes
Y	



DATA VALIDATION CHECKLIST – STAGE 3

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

Instrument Performance Checks:

Within Criteria	Exceedance/Notes
Y	

Initial Calibration:

Within Criteria	Exceedance/Notes
Y	

Continuing Calibration:

Within Criteria	Exceedance/Notes
N	<u>TO-15 SIM</u> : Chloromethane had a low response (61.1%D)for the CCV. Chloromethane results were qualified as estimated (flagged J) for all site samples.

Calibration Verification:

Within Criteria	Exceedance/Notes
Y	



DATA VALIDATION CHECKLIST – STAGE 3

Method blanks:

Within Criteria	Exceedance/Notes
N	<u>TO-15 SIM</u> : Acetone, benzene, and toluene were detected in the method blank. The sample results were > than 10× the amount in the blank; therefore, no results were qualified.

Field blanks:

Within Criteria	Exceedance/Notes
NA	

Interference Check Samples (ICS) (ICP metals only):

Within Criteria	Exceedance/Notes
NA	

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
Y	

MS/MSD:

Within Criteria	Exceedance/Notes
NA	

Post digestion spikes:

Within Criteria	Exceedance/Notes
NA	



DATA VALIDATION CHECKLIST – STAGE 3

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Serial dilutions:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
NA	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
N	<u>TO-15 SIM</u> : Chloromethane had a low recovery (26%) from the LCS. Chloromethane results were qualified as estimated, with a potential low bias (flagged J-) for all site samples.

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	



DATA VALIDATION CHECKLIST – STAGE 3

Second column confirmation (GC and HPLC analyses only):

Within Criteria	Exceedance/Notes
NA	

Internal Standards:

Within Criteria	Exceedance/Notes
Y	

Target analyte identification:

Within Criteria	Exceedance/Notes
Y	

Analyte quantitation and MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Sample results were verified; results were found to be acceptable. Refer to calculation verification spreadsheets. MDLs are not reported in the EDD or laboratory report. Nondetects are reported at the RL.

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
Y	<u>IO-15</u> : The following TICs were identified in the site samples although the qualitative fits were less than 85: 2-ethyl-1-hexanol in RCF-715A-21061615 and butane in RCF-225P-210615. According to the NFG, these compounds could have been reported as unknowns. The reviewer did not change the TICs; however, the data user should be aware of the quality of the identification. The TICs were qualified as tentatively identified and estimated (flagged NJ).

DATA VALIDATION CHECKLIST – STAGE 3

System performance and instrument stability:

Within Criteria	Exceedance/Notes
NA	

Other [specify]:

Within Criteria	Exceedance/Notes
NA	

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.



STAGE 3/4 DATA VALIDATION CHECKLIST FOR RECALCULATIONS

Data Package Number: P2103221

Validation Element	Objective	Sample ID, Run Date, and Run Time	Results (include units) and Notes (Use check mark to indicate correct result; include hand-calculated result if performed)
Initial Calibration	Confirm (in raw data) that an initial calibration begins each analytical sequence, before all QC or env. samples are analyzed, using the correct number of standards (and calibration blank, if required).	16 May 2021 instrument MS19 07:55 – 13:14 7-8-point calibration	See calibration spreadsheet
	Confirm (in raw data) that an initial calibration occurs at the required frequency.	Yes	
	Confirm that initial calibration criteria are met. Spot-recalculate initial calibration results.	reported 4.226 benzene	Calculated RRF: high-level 52000 ng std $(6190697 * 1000 / (28174 * 52000)) = 4.22559$
			Calculated \overline{RRF} : See calibration spreadsheet
			Calculated %RSD: See calibration spreadsheet
<p>Recalculate at least one result (and %R or %D values, as appropriate) from each of the following QC samples and environmental samples, and compare your calculated results with the results the laboratory reports on their summary forms found earlier in the data package. They should agree. If they do not, then there may be problems with the package and further review is required. Note that for some QC samples, your comparison may mean simply confirming that the result reported in the summary form matches the result in the raw data – there may not be any calculation.</p> <p style="text-align: right;">SHOW ALL WORK FOR RECALCULATIONS</p>			
Tune	Confirm BFB Percent Relative Abundance	6/16/2021 2:33 mass 174 reported 98.8%	7090/7180*100=98.746%

STAGE 3/4 DATA VALIDATION CHECKLIST FOR RECALCULATIONS

Data Package Number: P2103221

Validation Element	Objective	Sample ID, Run Date, and Run Time	Results (include units) and Notes (Use check mark to indicate correct result; include hand-calculated result if performed)
ICV	Check result	S19061621 16 June 2021 2:54	See calibration spreadsheet
	Recalculate one RRF		
	Recalculate one %R		
A CCV applicable to our samples	Check result	S19061621 16 June 2021 2:54	See calibration spreadsheet
	Recalculate one RRF		
	Recalculate one %D		
Method Blank	Check result	S19061621 16 June 4:29	acetone 136.696 benzene 10.439 toluene 6.696
Surrogate	Recalculate one %R	16 June 2021 21:10 RCF- 225P-210615 T o l u e n e - d 8 reported 102%	1015.6774/1000*100=101.56%
MS	Check result	N/A	
	Recalculate one %R	N/A	
MSD	Check result	N/A	
	Recalculate one %R	N/A	
	Recalculate one RPD value between MS and MSD	N/A	

STAGE 3/4 DATA VALIDATION CHECKLIST FOR RECALCULATIONS

Data Package Number: P2103221

Validation Element	Objective	Sample ID, Run Date, and Run Time	Results (include units) and Notes (Use check mark to indicate correct result; include hand-calculated result if performed)
LCS	Check result	S19061621 1000pg 16 June 2021 5:01	See spreadsheet
	Recalculate one %R	toluene reported 93%	$19.1/20.6 \times 100 = 92.7\%$ $956.288/1030 = 92.8\%$ (on column)
LCSD	Check result	NA	
	Recalculate one %R	NA	
	Recalculate one RPD value between LCS and LCSD	NA	
Internal Standards	Recalculate one %R	bromochloromethane RCF-225P-210615	$16672/16808 = 99.1\%$
	Recalculate one delta RT	bromochloromethane RCF-225P-210615	$9.61 - 9.61 = 0.00$ min.
Sample Result for RCF-225P-210615 toluene	Check result	5/8/2021 00:11 reported 1.2 ug/m3	See calibration spreadsheet
			$750.734 \times 1.62 = 1.316$ ug/m3
MDL for __ not reported in data__	Check result	NA	
RL for __ RCF-2259-210615 toluene	Check result	reported 0.16 ug/m3	nominal MB RL 0.10 ug/m3 $1.62 = 0.162$ (rounding)
Convert $\mu\text{g}/\text{m}^3$ to ppbV (air only) for	Check result	1.2 ug/m3	0.318463 ppbv lab reported 0.32 ppbv (rounding) (EPA On-line tools for Site Assessment Calculation)

ICAL TO-15SIM MS19 16May2021
Toluene

Input Calibration Data					Relative Errors in X					
Amount	Response	ISTD Amt	ISTD Resp	Rel. Resp.	Average	Linear (1/x2)	Linear (1/X)	Linear Forced	Linear	Quadratic
20.8	1871	1000.0	78411	23.86	4.28%	0.55%	31.97%	-5.09%	2022.51%	-224.84%
52.0	4791	1000.0	77618	61.73	7.91%	6.98%	14.77%	-1.79%	808.56%	-77.35%
104.0	8352	1000.0	86417	96.65	-15.52%	-15.72%	-14.03%	-23.11%	381.74%	-55.21%
520.0	44199	1000.0	79829	553.67	-3.21%	-2.57%	-7.99%	-11.91%	68.23%	-3.64%
1040.0	87523	1000.0	82360	1062.69	-7.11%	-6.41%	-12.33%	-15.46%	24.15%	-3.36%
5200.0	609190	1000.0	95453	6382.09	11.57%	12.51%	4.61%	1.54%	8.50%	18.13%
10400.0	1015262	1000.0	102682	9887.44	-13.58%	-12.84%	-19.00%	-21.34%	-18.18%	-9.53%
26000.0	3262066	1000.0	110524	29514.55	3.19%	4.07%	-3.34%	-6.08%	-5.53%	1.05%
52000.0	7183183	1000.0	111650	64336.61	12.47%	13.43%	5.34%	2.37%	2.01%	-0.07%
RSE in X:					10.4%	11.1%	17.2%	13.4%	836.3%	100.0%

Curve Fit Statistics							Sample Results				
		1 st Degree	2 nd Degree								
		Constant	Coefficient	Coefficient	X-Intercept	r ²	r				
Weighted (1/Amt^2)											
Average		1.1001E+00		0	0.98940	0.99469					
Linear	1.0497E+00	1.0907E+00		-0.96	0.98350	0.99172					
Weighted (1/Amt)											
Linear	-8.3839E+00	1.1747E+00		7.14	0.99544	0.99772					
Unweighted											
Forced Zero		1.2087E+00		0	0.99745	0.99873					
Linear	-5.1591E+02	1.2226E+00		421.97	0.99697	0.99848					
Quadratic	4.9908E+01	1.0032E+00	4.5021E-06	-49.76	0.99939	0.99970					
		c	b	a							

ICV	CCV	LCS	RCF-715A	RCF-225P
94607	85243	82742	40827	65870
IS Response:	84852	79250	78654	78441
Avg RF Result:	1013.549	977.784	956.288	473.138
Linear(1/x2) Result:	1021.274	985.203	963.522	476.231
Linear(1/x) Result:	956.263	922.772	902.642	450.202
Linear Forced:	922.486	889.935	870.370	430.629
Linear Result:	1333.898	1301.719	1282.378	847.668
Quad Result (no IS):				
Quad Result (with IS):	1056.691	1017.833	994.472	468.107

CHEMTOOL FIRE SITE - RS AIR ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. P2103221

Sample ID	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val_Result	Val_Qual
RCF-225P-210615	1,1,1-Trichloroethane	ND	ND	0.0096	0.041	UG/M3	0.041	U
RCF-225P-210615	1,1,2,2-Tetrachloroethane	ND	ND	0.012	0.041	UG/M3	0.041	U
RCF-225P-210615	1,1,2-Trichloroethane	ND	ND	0.013	0.16	UG/M3	0.16	U
RCF-225P-210615	1,1,2-Trichlorotrifluoroethane	0.46	=	0.014	0.041	UG/M3	0.46	
RCF-225P-210615	1,1-Dichloroethane	ND	ND	0.0099	0.041	UG/M3	0.041	U
RCF-225P-210615	1,1-Dichloroethene	ND	ND	0.014	0.041	UG/M3	0.041	U
RCF-225P-210615	1,2,4-Trichlorobenzene	ND	ND	0.021	0.081	UG/M3	0.081	U
RCF-225P-210615	1,2,4-Trimethylbenzene	0.18	=	0.013	0.16	UG/M3	0.18	
RCF-225P-210615	1,2-Dibromo 3-Chloropropane	ND	ND	0.015	0.16	UG/M3	0.16	U
RCF-225P-210615	1,2-Dibromoethane	ND	ND	0.013	0.041	UG/M3	0.041	U
RCF-225P-210615	1,2-Dichlorobenzene	ND	ND	0.013	0.041	UG/M3	0.041	U
RCF-225P-210615	1,2-Dichloroethane	0.065	=	0.014	0.041	UG/M3	0.065	
RCF-225P-210615	1,2-Dichloropropane	ND	ND	0.012	0.041	UG/M3	0.041	U
RCF-225P-210615	1,3,5-Trimethylbenzene	ND	ND	0.012	0.16	UG/M3	0.16	U
RCF-225P-210615	1,3-Butadiene	ND	ND	0.023	0.081	UG/M3	0.081	U
RCF-225P-210615	1,3-Dichlorobenzene	ND	ND	0.014	0.041	UG/M3	0.041	U
RCF-225P-210615	1,4-Dichlorobenzene	ND	ND	0.013	0.041	UG/M3	0.041	U
RCF-225P-210615	1,4-Dioxane	ND	ND	0.014	0.16	UG/M3	0.16	U
RCF-225P-210615	Acetone	8.1	=	0.091	4.1	UG/M3	8.1	
RCF-225P-210615	Acrolein	ND	ND	0.063	0.32	UG/M3	0.32	U
RCF-225P-210615	Benzene	0.32	=	0.032	0.12	UG/M3	0.32	
RCF-225P-210615	Bromodichloromethane	ND	ND	0.011	0.041	UG/M3	0.041	U
RCF-225P-210615	Bromomethane	ND	ND	0.015	0.041	UG/M3	0.041	U
RCF-225P-210615	Carbon Tetrachloride	0.40	=	0.019	0.041	UG/M3	0.40	
RCF-225P-210615	Chlorobenzene	ND	ND	0.015	0.16	UG/M3	0.16	U
RCF-225P-210615	Chloroethane	ND	ND	0.014	0.041	UG/M3	0.041	U
RCF-225P-210615	Chloroform	ND	ND	0.029	0.16	UG/M3	0.16	U
RCF-225P-210615	Chloromethane	0.086	=,V	0.031	0.081	UG/M3	0.086	J-
RCF-225P-210615	cis-1,2-Dichloroethene	ND	ND	0.015	0.041	UG/M3	0.041	U
RCF-225P-210615	cis-1,3-Dichloropropene	ND	ND	0.010	0.081	UG/M3	0.081	U
RCF-225P-210615	Dibromochloromethane	ND	ND	0.014	0.041	UG/M3	0.041	U
RCF-225P-210615	Dichlorodifluoromethane (CFC 12)	2.0	=	0.028	0.081	UG/M3	2.0	
RCF-225P-210615	Dichloromethane (Methylene Chloride)	0.32	=	0.021	0.16	UG/M3	0.32	
RCF-225P-210615	Ethylbenzene	0.17	=	0.016	0.16	UG/M3	0.17	

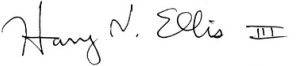
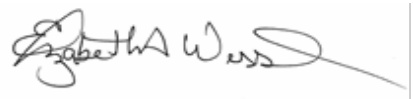
CHEMTOOL FIRE SITE - RS AIR ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. P2103221

Sample ID	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val_Result	Val_Qual
RCF-225P-210615	Hexachlorobutadiene	ND	ND	0.015	0.16	UG/M3	0.16	U
RCF-225P-210615	m,p-Xylenes	0.54	=	0.031	0.16	UG/M3	0.54	
RCF-225P-210615	Methyl tert-Butyl Ether	ND	ND	0.015	0.041	UG/M3	0.041	U
RCF-225P-210615	Naphthalene	ND	ND	0.026	0.16	UG/M3	0.16	U
RCF-225P-210615	n-Butane	3.5	T			UG/M3	3.5	NJ
RCF-225P-210615	n-Nonaldehyde	11	T			UG/M3	11	NJ
RCF-225P-210615	o-Xylene	0.21	=	0.014	0.16	UG/M3	0.21	
RCF-225P-210615	Propane	16	T			UG/M3	16	NJ
RCF-225P-210615	Styrene	ND	ND	0.012	0.16	UG/M3	0.16	U
RCF-225P-210615	Tetrachloroethene	0.058	=	0.013	0.041	UG/M3	0.058	
RCF-225P-210615	Toluene	1.2	=	0.018	0.16	UG/M3	1.2	
RCF-225P-210615	trans-1,2-Dichloroethene	ND	ND	0.012	0.041	UG/M3	0.041	U
RCF-225P-210615	trans-1,3-Dichloropropene	ND	ND	0.0089	0.081	UG/M3	0.081	U
RCF-225P-210615	Trichloroethene	ND	ND	0.014	0.041	UG/M3	0.041	U
RCF-225P-210615	Trichlorofluoromethane	1.4	=	0.024	0.081	UG/M3	1.4	
RCF-225P-210615	Vinyl Chloride	ND	ND	0.012	0.041	UG/M3	0.041	U
RCF-715A-210615	1,1,1-Trichloroethane	ND	ND	0.0097	0.041	UG/M3	0.041	U
RCF-715A-210615	1,1,2,2-Tetrachloroethane	ND	ND	0.012	0.041	UG/M3	0.041	U
RCF-715A-210615	1,1,2-Trichloroethane	ND	ND	0.013	0.17	UG/M3	0.17	U
RCF-715A-210615	1,1,2-Trichlorotrifluoroethane	0.48	=	0.015	0.041	UG/M3	0.48	
RCF-715A-210615	1,1-Dichloroethane	ND	ND	0.010	0.041	UG/M3	0.041	U
RCF-715A-210615	1,1-Dichloroethene	ND	ND	0.014	0.041	UG/M3	0.041	U
RCF-715A-210615	1,2,4-Trichlorobenzene	ND	ND	0.021	0.083	UG/M3	0.083	U
RCF-715A-210615	1,2,4-Trimethylbenzene	ND	ND	0.014	0.17	UG/M3	0.17	U
RCF-715A-210615	1,2-Dibromo 3-Chloropropane	ND	ND	0.016	0.17	UG/M3	0.17	U
RCF-715A-210615	1,2-Dibromoethane	ND	ND	0.013	0.041	UG/M3	0.041	U
RCF-715A-210615	1,2-Dichlorobenzene	ND	ND	0.014	0.041	UG/M3	0.041	U
RCF-715A-210615	1,2-Dichloroethane	0.062	=	0.014	0.041	UG/M3	0.062	
RCF-715A-210615	1,2-Dichloropropane	ND	ND	0.012	0.041	UG/M3	0.041	U
RCF-715A-210615	1,3,5-Trimethylbenzene	ND	ND	0.012	0.17	UG/M3	0.17	U
RCF-715A-210615	1,3-Butadiene	ND	ND	0.023	0.083	UG/M3	0.083	U
RCF-715A-210615	1,3-Dichlorobenzene	ND	ND	0.014	0.041	UG/M3	0.041	U
RCF-715A-210615	1,4-Dichlorobenzene	ND	ND	0.013	0.041	UG/M3	0.041	U
RCF-715A-210615	1,4-Dioxane	ND	ND	0.014	0.17	UG/M3	0.17	U

CHEMTOOL FIRE SITE - RS AIR ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. P2103221

Sample ID	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val_Result	Val_Qual
RCF-715A-210615	2-Ethyl-1-hexanol	6.1	T			UG/M3	6.1	NJ
RCF-715A-210615	Acetone	7.6	=	0.092	4.1	UG/M3	7.6	
RCF-715A-210615	Acrolein	ND	ND	0.064	0.33	UG/M3	0.33	U
RCF-715A-210615	Benzene	0.45	=	0.033	0.12	UG/M3	0.45	
RCF-715A-210615	Bromodichloromethane	ND	ND	0.011	0.041	UG/M3	0.041	U
RCF-715A-210615	Bromomethane	ND	ND	0.015	0.041	UG/M3	0.041	U
RCF-715A-210615	Carbon Tetrachloride	0.39	=	0.020	0.041	UG/M3	0.39	
RCF-715A-210615	Chlorobenzene	ND	ND	0.015	0.17	UG/M3	0.17	U
RCF-715A-210615	Chloroethane	ND	ND	0.014	0.041	UG/M3	0.041	U
RCF-715A-210615	Chloroform	ND	ND	0.030	0.17	UG/M3	0.17	U
RCF-715A-210615	Chloromethane	0.087	=,V	0.031	0.083	UG/M3	0.087	J-
RCF-715A-210615	cis-1,2-Dichloroethene	ND	ND	0.015	0.041	UG/M3	0.041	U
RCF-715A-210615	cis-1,3-Dichloropropene	ND	ND	0.010	0.083	UG/M3	0.083	U
RCF-715A-210615	Dibromochloromethane	ND	ND	0.015	0.041	UG/M3	0.041	U
RCF-715A-210615	Dichlorodifluoromethane (CFC 12)	1.9	=	0.028	0.083	UG/M3	1.9	
RCF-715A-210615	Dichloromethane (Methylene Chloride)	0.33	=	0.021	0.17	UG/M3	0.33	
RCF-715A-210615	Ethylbenzene	ND	ND	0.016	0.17	UG/M3	0.17	U
RCF-715A-210615	Hexachlorobutadiene	ND	ND	0.015	0.17	UG/M3	0.17	U
RCF-715A-210615	m,p-Xylenes	0.36	=	0.031	0.17	UG/M3	0.36	
RCF-715A-210615	Methyl tert-Butyl Ether	ND	ND	0.015	0.041	UG/M3	0.041	U
RCF-715A-210615	Naphthalene	ND	ND	0.026	0.17	UG/M3	0.17	U
RCF-715A-210615	n-Nonaldehyde	12	T			UG/M3	12	NJ
RCF-715A-210615	o-Xylene	ND	ND	0.015	0.17	UG/M3	0.17	U
RCF-715A-210615	Styrene	ND	ND	0.012	0.17	UG/M3	0.17	U
RCF-715A-210615	Tetrachloroethene	0.052	=	0.014	0.041	UG/M3	0.052	
RCF-715A-210615	Toluene	0.78	=	0.018	0.17	UG/M3	0.78	
RCF-715A-210615	trans-1,2-Dichloroethene	ND	ND	0.012	0.041	UG/M3	0.041	U
RCF-715A-210615	trans-1,3-Dichloropropene	ND	ND	0.0091	0.083	UG/M3	0.083	U
RCF-715A-210615	Trichloroethene	ND	ND	0.014	0.041	UG/M3	0.041	U
RCF-715A-210615	Trichlorofluoromethane	1.2	=	0.025	0.083	UG/M3	1.2	
RCF-715A-210615	Vinyl Chloride	ND	ND	0.013	0.041	UG/M3	0.041	U

DATA VALIDATION CHECKLIST – STAGE 3

Site Name	Chemtool Fire Site RS	Project No.	103X903100320001CF104
Document Tracking No.	0755C	Technical Reviewer (signature and date)	 13 July 2021
Data Reviewer (signature and date)	 July 7, 2021	Laboratory	ALS Environmental/Simi Valley, CA
Laboratory Report No.	P2103254		
Analyses	Volatile organic compounds by EPA TO-15 and TO-15 SIM		
Samples and Matrix	2 air samples		
Field Duplicate Pairs	None		
Field Blanks	None		

INTRODUCTION

This checklist summarizes the Stage 3 validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V)*, *EPA Region 4*, Revision 1 (September 2019), the *EPA Compendium Method TO-15*, and the *EPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (January 2017).

OVERALL EVALUATION

No rejection of results was required for this data package. The results may be used as qualified based on the findings of this validation effort.

Data completeness:

Within Criteria	Exceedance/Notes
Y	

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	



DATA VALIDATION CHECKLIST – STAGE 3

Instrument Performance Checks:

Within Criteria	Exceedance/Notes
Y	

Initial Calibration:

Within Criteria	Exceedance/Notes
Y	

Continuing Calibration:

Within Criteria	Exceedance/Notes
Y	

Calibration Verification:

Within Criteria	Exceedance/Notes
Y	

Method blanks:

Within Criteria	Exceedance/Notes
N	<u>TO-15 SIM</u> : Acetone, benzene, 1,2,4-trichlorobenzene, and naphthalene were detected in the method blank. The sample results were > than 10× the amount in the blank; therefore, no results were qualified.



DATA VALIDATION CHECKLIST – STAGE 3

Field blanks:

Within Criteria	Exceedance/Notes
NA	

Interference Check Samples (ICS) (ICP metals only):

Within Criteria	Exceedance/Notes
NA	

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
Y	

MS/MSD:

Within Criteria	Exceedance/Notes
NA	

Post digestion spikes:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	



DATA VALIDATION CHECKLIST – STAGE 3

Serial dilutions:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
NA	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

Second column confirmation (GC and HPLC analyses only):

Within Criteria	Exceedance/Notes
NA	



DATA VALIDATION CHECKLIST – STAGE 3

Internal Standards:

Within Criteria	Exceedance/Notes
Y	

Target analyte identification:

Within Criteria	Exceedance/Notes
Y	

Analyte quantitation and MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Sample results were verified; results were found to be acceptable. Refer to calculation verification spreadsheets. MDLs are not reported in the EDD or laboratory report. Nondetects are reported at the RL.

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
N	TO-15: C11 Alkane was reported for sample RCF-NET2-061621 although the qualitative fit was less than 85. According to the NFG, this compound could have been reported as unknown. The reviewer did not change the TIC; however, the data user should be aware of the quality of the identification. Named TICs were qualified as tentatively identified and estimated (flagged NJ) and unnamed TICs were qualified as estimated (flagged J).

DATA VALIDATION CHECKLIST – STAGE 3

System performance and instrument stability:

Within Criteria	Exceedance/Notes
NA	

Other [specify]:

Within Criteria	Exceedance/Notes
NA	

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.



STAGE 3/4 DATA VALIDATION CHECKLIST FOR RECALCULATIONS

Data Package Number: P2103254

Validation Element	Objective	Sample ID, Run Date, and Run Time	Results (include units) and Notes (Use check mark to indicate correct result; include hand-calculated result if performed)
Initial Calibration	Confirm (in raw data) that an initial calibration begins each analytical sequence, before all QC or env. samples are analyzed, using the correct number of standards (and calibration blank, if required).	16 May 2021 instrument MS19 07:55 – 13:14 7-8-point calibration	See calibration spreadsheet
	Confirm (in raw data) that an initial calibration occurs at the required frequency.	Yes	
	Confirm that initial calibration criteria are met. Spot-recalculate initial calibration results.	reported 4.226 benzene	Calculated RRF: high-level 52000 ng std $(6190697 * 1000) / (28174 * 52000) = 4.22559$
			Calculated \overline{RRF} : See calibration spreadsheet
			Calculated %RSD: See calibration spreadsheet
	<p>Recalculate at least one result (and %R or %D values, as appropriate) from each of the following QC samples and environmental samples, and compare your calculated results with the results the laboratory reports on their summary forms found earlier in the data package. They should agree. If they do not, then there may be problems with the package and further review is required. Note that for some QC samples, your comparison may mean simply confirming that the result reported in the summary form matches the result in the raw data – there may not be any calculation.</p> <p style="text-align: right;">SHOW ALL WORK FOR RECALCULATIONS</p>		
Tune	Confirm BFB Percent Relative Abundance	6/16/2021 2:33 mass 174 reported 98.8%	7090/7180*100=98.746%

STAGE 3/4 DATA VALIDATION CHECKLIST FOR RECALCULATIONS

Data Package Number: P2103254

Validation Element	Objective	Sample ID, Run Date, and Run Time	Results (include units) and Notes (Use check mark to indicate correct result; include hand-calculated result if performed)
ICV	Check result	S19061621 16 June 2021 2:54	See calibration spreadsheet
	Recalculate one RRF		
	Recalculate one %R		
A CCV applicable to our samples	Check result	S19061621 17 June 2021 5:15	See calibration spreadsheet
	Recalculate one RRF		
	Recalculate one %D		
Method Blank	Check result	S19061721 17 June 6:49	acetone 85.316 benzene 8.195 1,2,4-TCB 11.559 naphthalene 7.159
Surrogate	Recalculate one %R	16 June 2021 21:10 RCF- NET2-210616 B F B reported 99%	991.423/1000*100=99.1423%
MS	Check result	N/A	
	Recalculate one %R	N/A	
MSD	Check result	N/A	
	Recalculate one %R	N/A	

STAGE 3/4 DATA VALIDATION CHECKLIST FOR RECALCULATIONS

Data Package Number: P2103254

	Recalculate one RPD value between MS and MSD	N/A	
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Validation Element	Objective	Sample ID, Run Date, and Run Time	Results (include units) and Notes (Use check mark to indicate correct result; include hand-calculated result if performed)
LCS	Check result	S19061721 17 June 2021 7:20	See spreadsheet
	Recalculate one %R	naphthalene reported 92%	18.3/19.8*100=92.42% 913.404/1030 =92.3% (on column)
LCSD	Check result	NA	
	Recalculate one %R	NA	
	Recalculate one RPD value between LCS and LCSD	NA	
Internal Standards	Recalculate one %R	bromochloromethane RCF-NET1-210616	15413/13955=110.4%
	Recalculate one delta RT	bromochloromethane RCF-NET1-210616	9.61-9.61=0.00 min.
Sample Result for RCF-NET2-210615 naphthalene	Check result	17 June 2021 16:42 Reported 0.38 ug/m3	See calibration spreadsheet 216.201*1.74=0.376 ug/m3
MDL for __ not reported in data__	Check result	NA	
RL for __ RCF-NET2-210615 naphthalene	Check result	reported 0.17 ug/m3	nominal MB RL 0.10 ug/m3 1.74= 0.174
Convert µg/m ³ to ppbV (air only) for	Check result	0.38 ug/m3	0.0724953 ppbv lab reported 0.072 ppbv (rounding) (EPA On-line tools for Site Assessment Calculation)

ICAL TO-15SIM MS19 16May2021
Naphthalene

Input Calibration Data					Relative Errors in X					
Amount	Response	ISTD Amt	ISTD Resp	Rel. Resp.	Average	Linear (1/x2)	Linear (1/X)	Linear Forced	Linear	Quadratic
103.0	6675	1000.0	12604	529.59	-22.97%	3.89%	27.69%	-35.75%	50.62%	124.62%
515.0	35185	1000.0	11930	2949.29	-14.20%	-15.16%	-16.00%	-28.44%	-11.83%	-3.39%
1030.0	77338	1000.0	12173	6353.24	-7.59%	-12.52%	-16.88%	-22.92%	-15.09%	-15.07%
5150.0	621615	1000.0	14346	43330.20	26.05%	15.40%	5.96%	5.14%	5.68%	1.16%
10300.0	1368783	1000.0	16771	81616.06	18.71%	8.38%	-0.77%	-0.98%	-1.24%	-0.15%
RSE in X:					21.3%	15.4%	21.2%	25.7%	31.4%	88.8%

Curve Fit Statistics							Sample Results					
		1 st Degree	2 nd Degree									
		Constant	Coefficient	Coefficient	X-Intercept	r ²	r					
Weighted (1/Amt ²)							Instrum.Responses:	ICV	CCV	LCS	RCF-NET1	RCF-NET2
Average								76062	75142	65803	15536	19202
							IS Response:	13305	12235	10793	13588	13306
							Avg RF Result:	856.470	920.107	913.404	171.294	216.201
Linear								814.303	872.221	866.121	190.698	231.569
							Linear(1/x2) Result:					
Weighted (1/Amt)							Linear(1/x) Result:					
Linear								776.941	829.793	824.226	207.889	245.185
Unweighted												
Forced Zero							Linear Forced:	714.387	767.466	761.876	142.878	180.335
Linear							Linear Result:	795.927	848.399	842.872	230.963	267.991
Quadratic							Quad Result (no IS):					
							Quad Result (with IS):	804.015	851.246	846.269	298.727	331.664
		c	b	a								

CHEMTOOL FIRE SITE - RS AIR ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. P2103254

Sample ID	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val_Result	Val_Qual
RCF-NET1-061621	1,1,1-Trichloroethane	ND	ND	0.010	0.044	UG/M3	0.044	U
RCF-NET1-061621	1,1,2,2-Tetrachloroethane	ND	ND	0.013	0.044	UG/M3	0.044	U
RCF-NET1-061621	1,1,2-Trichloroethane	ND	ND	0.014	0.17	UG/M3	0.17	U
RCF-NET1-061621	1,1,2-Trichlorotrifluoroethane	0.42	=	0.015	0.044	UG/M3	0.42	
RCF-NET1-061621	1,1-Dichloroethane	ND	ND	0.011	0.044	UG/M3	0.044	U
RCF-NET1-061621	1,1-Dichloroethene	ND	ND	0.015	0.044	UG/M3	0.044	U
RCF-NET1-061621	1,2,4-Trichlorobenzene	ND	ND	0.023	0.087	UG/M3	0.087	U
RCF-NET1-061621	1,2,4-Trimethylbenzene	0.22	=	0.014	0.17	UG/M3	0.22	
RCF-NET1-061621	1,2-Dibromo 3-Chloropropane	ND	ND	0.017	0.17	UG/M3	0.17	U
RCF-NET1-061621	1,2-Dibromoethane	ND	ND	0.014	0.044	UG/M3	0.044	U
RCF-NET1-061621	1,2-Dichlorobenzene	ND	ND	0.014	0.044	UG/M3	0.044	U
RCF-NET1-061621	1,2-Dichloroethane	0.45	=	0.015	0.044	UG/M3	0.45	
RCF-NET1-061621	1,2-Dichloropropane	ND	ND	0.013	0.044	UG/M3	0.044	U
RCF-NET1-061621	1,3,5-Trimethylbenzene	ND	ND	0.013	0.17	UG/M3	0.17	U
RCF-NET1-061621	1,3-Butadiene	0.41	=	0.024	0.087	UG/M3	0.41	
RCF-NET1-061621	1,3-Dichlorobenzene	ND	ND	0.015	0.044	UG/M3	0.044	U
RCF-NET1-061621	1,4-Dichlorobenzene	0.045	=	0.014	0.044	UG/M3	0.045	
RCF-NET1-061621	1,4-Dioxane	ND	ND	0.015	0.17	UG/M3	0.17	U
RCF-NET1-061621	Acetone	6.3	=	0.097	4.4	UG/M3	6.3	
RCF-NET1-061621	Acrolein	0.42	=	0.068	0.35	UG/M3	0.42	
RCF-NET1-061621	Benzene	1.6	=	0.035	0.13	UG/M3	1.6	
RCF-NET1-061621	Bromodichloromethane	ND	ND	0.012	0.044	UG/M3	0.044	U
RCF-NET1-061621	Bromomethane	ND	ND	0.016	0.044	UG/M3	0.044	U
RCF-NET1-061621	Carbon Tetrachloride	0.35	=	0.021	0.044	UG/M3	0.35	
RCF-NET1-061621	Chlorobenzene	ND	ND	0.016	0.17	UG/M3	0.17	U
RCF-NET1-061621	Chloroethane	ND	ND	0.015	0.044	UG/M3	0.044	U
RCF-NET1-061621	Chloroform	ND	ND	0.031	0.17	UG/M3	0.17	U
RCF-NET1-061621	Chloromethane	0.25	=	0.033	0.087	UG/M3	0.25	
RCF-NET1-061621	cis-1,2-Dichloroethene	ND	ND	0.016	0.044	UG/M3	0.044	U
RCF-NET1-061621	cis-1,3-Dichloropropene	ND	ND	0.011	0.087	UG/M3	0.087	U
RCF-NET1-061621	Dibromochloromethane	ND	ND	0.015	0.044	UG/M3	0.044	U
RCF-NET1-061621	Dichlorodifluoromethane (CFC 12)	1.9	=	0.030	0.087	UG/M3	1.9	
RCF-NET1-061621	Dichloromethane (Methylene Chloride)	0.46	=	0.023	0.17	UG/M3	0.46	
RCF-NET1-061621	Ethylbenzene	2.5	=	0.017	0.17	UG/M3	2.5	

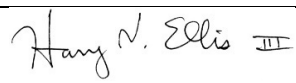
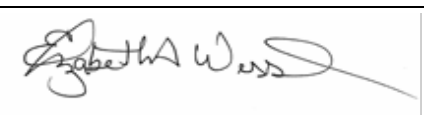
CHEMTOOL FIRE SITE - RS AIR ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. P2103254

Sample ID	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val_Result	Val_Qual
RCF-NET1-061621	Hexachlorobutadiene	ND	ND	0.016	0.17	UG/M3	0.17	U
RCF-NET1-061621	m,p-Xylenes	10	=	0.033	0.17	UG/M3	10	
RCF-NET1-061621	Methyl tert-Butyl Ether	ND	ND	0.016	0.044	UG/M3	0.044	U
RCF-NET1-061621	Naphthalene	0.30	=	0.028	0.17	UG/M3	0.30	
RCF-NET1-061621	n-Nonaldehyde	4.8	T			UG/M3	4.8	NJ
RCF-NET1-061621	n-Pentane	3.5	T			UG/M3	3.5	NJ
RCF-NET1-061621	o-Xylene	2.9	=	0.015	0.17	UG/M3	2.9	
RCF-NET1-061621	Styrene	0.18	=	0.013	0.17	UG/M3	0.18	
RCF-NET1-061621	Tetrachloroethene	0.060	=	0.014	0.044	UG/M3	0.060	
RCF-NET1-061621	Toluene	1.4	=	0.019	0.17	UG/M3	1.4	
RCF-NET1-061621	trans-1,2-Dichloroethene	ND	ND	0.013	0.044	UG/M3	0.044	U
RCF-NET1-061621	trans-1,3-Dichloropropene	ND	ND	0.0096	0.087	UG/M3	0.087	U
RCF-NET1-061621	Trichloroethene	ND	ND	0.015	0.044	UG/M3	0.044	U
RCF-NET1-061621	Trichlorofluoromethane	1.1	=	0.026	0.087	UG/M3	1.1	
RCF-NET1-061621	Vinyl Chloride	ND	ND	0.013	0.044	UG/M3	0.044	U
RCF-NET2-061621	1,1,1-Trichloroethane	ND	ND	0.010	0.044	UG/M3	0.044	U
RCF-NET2-061621	1,1,2,2-Tetrachloroethane	ND	ND	0.013	0.044	UG/M3	0.044	U
RCF-NET2-061621	1,1,2-Trichloroethane	ND	ND	0.014	0.17	UG/M3	0.17	U
RCF-NET2-061621	1,1,2-Trichlorotrifluoroethane	0.42	=	0.015	0.044	UG/M3	0.42	
RCF-NET2-061621	1,1-Dichloroethane	ND	ND	0.011	0.044	UG/M3	0.044	U
RCF-NET2-061621	1,1-Dichloroethene	ND	ND	0.015	0.044	UG/M3	0.044	U
RCF-NET2-061621	1,2,4-Trichlorobenzene	ND	ND	0.023	0.087	UG/M3	0.087	U
RCF-NET2-061621	1,2,4-Trimethylbenzene	0.23	=	0.014	0.17	UG/M3	0.23	
RCF-NET2-061621	1,2-Dibromo 3-Chloropropane	ND	ND	0.017	0.17	UG/M3	0.17	U
RCF-NET2-061621	1,2-Dibromoethane	ND	ND	0.014	0.044	UG/M3	0.044	U
RCF-NET2-061621	1,2-Dichlorobenzene	ND	ND	0.014	0.044	UG/M3	0.044	U
RCF-NET2-061621	1,2-Dichloroethane	0.32	=	0.015	0.044	UG/M3	0.32	
RCF-NET2-061621	1,2-Dichloropropane	ND	ND	0.013	0.044	UG/M3	0.044	U
RCF-NET2-061621	1,3,5-Trimethylbenzene	ND	ND	0.013	0.17	UG/M3	0.17	U
RCF-NET2-061621	1,3-Butadiene	0.37	=	0.024	0.087	UG/M3	0.37	
RCF-NET2-061621	1,3-Dichlorobenzene	ND	ND	0.015	0.044	UG/M3	0.044	U
RCF-NET2-061621	1,4-Dichlorobenzene	ND	ND	0.014	0.044	UG/M3	0.044	U
RCF-NET2-061621	1,4-Dioxane	ND	ND	0.015	0.17	UG/M3	0.17	U
RCF-NET2-061621	Acetone	5.3	=	0.097	4.4	UG/M3	5.3	

CHEMTOOL FIRE SITE - RS AIR ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. P2103254

Sample ID	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val_Result	Val_Qual
RCF-NET2-061621	Acrolein	ND	ND	0.068	0.35	UG/M3	0.35	U
RCF-NET2-061621	Benzene	1.4	=	0.035	0.13	UG/M3	1.4	
RCF-NET2-061621	Bromodichloromethane	ND	ND	0.012	0.044	UG/M3	0.044	U
RCF-NET2-061621	Bromomethane	ND	ND	0.016	0.044	UG/M3	0.044	U
RCF-NET2-061621	C11 Alkane	3.7	T			UG/M3	3.7	J
RCF-NET2-061621	Carbon Tetrachloride	0.34	=	0.021	0.044	UG/M3	0.34	
RCF-NET2-061621	Chlorobenzene	ND	ND	0.016	0.17	UG/M3	0.17	U
RCF-NET2-061621	Chloroethane	ND	ND	0.015	0.044	UG/M3	0.044	U
RCF-NET2-061621	Chloroform	ND	ND	0.031	0.17	UG/M3	0.17	U
RCF-NET2-061621	Chloromethane	0.23	=	0.033	0.087	UG/M3	0.23	
RCF-NET2-061621	cis-1,2-Dichloroethene	ND	ND	0.016	0.044	UG/M3	0.044	U
RCF-NET2-061621	cis-1,3-Dichloropropene	ND	ND	0.011	0.087	UG/M3	0.087	U
RCF-NET2-061621	Dibromochloromethane	ND	ND	0.015	0.044	UG/M3	0.044	U
RCF-NET2-061621	Dichlorodifluoromethane (CFC 12)	1.8	=	0.030	0.087	UG/M3	1.8	
RCF-NET2-061621	Dichloromethane (Methylene Chloride)	0.39	=	0.023	0.17	UG/M3	0.39	
RCF-NET2-061621	Ethylbenzene	2.0	=	0.017	0.17	UG/M3	2.0	
RCF-NET2-061621	Hexachlorobutadiene	ND	ND	0.016	0.17	UG/M3	0.17	U
RCF-NET2-061621	m,p-Xylenes	8.9	=	0.033	0.17	UG/M3	8.9	
RCF-NET2-061621	Methyl tert-Butyl Ether	ND	ND	0.016	0.044	UG/M3	0.044	U
RCF-NET2-061621	Naphthalene	0.38	=	0.028	0.17	UG/M3	0.38	
RCF-NET2-061621	n-Nonaldehyde	4.2	T			UG/M3	4.2	NJ
RCF-NET2-061621	o-Xylene	2.5	=	0.015	0.17	UG/M3	2.5	
RCF-NET2-061621	Styrene	0.18	=	0.013	0.17	UG/M3	0.18	
RCF-NET2-061621	Tetrachloroethene	0.044	=	0.014	0.044	UG/M3	0.044	
RCF-NET2-061621	Toluene	1.2	=	0.019	0.17	UG/M3	1.2	
RCF-NET2-061621	trans-1,2-Dichloroethene	ND	ND	0.013	0.044	UG/M3	0.044	U
RCF-NET2-061621	trans-1,3-Dichloropropene	ND	ND	0.0096	0.087	UG/M3	0.087	U
RCF-NET2-061621	Trichloroethene	ND	ND	0.015	0.044	UG/M3	0.044	U
RCF-NET2-061621	Trichlorofluoromethane	1.1	=	0.026	0.087	UG/M3	1.1	
RCF-NET2-061621	Vinyl Chloride	ND	ND	0.013	0.044	UG/M3	0.044	U

DATA VALIDATION CHECKLIST – STAGE 3

Site Name	Chemtool Fire Site - RS	Project No.	103X903100320001CF104
Document Tracking No.	0755D	Technical Reviewer (signature and date)	 13 July 2021
Data Reviewer (signature and date)	 July 8-9, 2021	Laboratory	ALS Environmental/Simi Valley, CA
Laboratory Report No.	P2103278		
Analyses	Volatile organic compounds by EPA TO-15 and TO-15 SIM		
Samples and Matrix	1 air sample		
Field Duplicate Pairs	None		
Field Blanks	None		

INTRODUCTION

This checklist summarizes the Stage 3 validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the *Quality Assurance Project Plan, Superfund Technical Assessment and Response Team (START V)*, EPA Region 4, Revision 1 (September 2019), with *EPA Compendium Method TO-15*, and the *EPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (January 2017).

OVERALL EVALUATION

No rejection of results was required for this data package other than a tentatively identified compound (TIC) which was rejected as a system contaminant. The results may be used as qualified based on the findings of this validation effort.

Data completeness:

Within Criteria	Exceedance/Notes
Y	



DATA VALIDATION CHECKLIST – STAGE 3

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
Y	

Instrument Performance Checks:

Within Criteria	Exceedance/Notes
Y	

Initial Calibration:

Within Criteria	Exceedance/Notes
Y	

Continuing Calibration:

Within Criteria	Exceedance/Notes
N	<u>TO-15 SIM</u> : The chloromethane %D (35.8) was outside control limits for the CCV. The chloromethane result was qualified as estimated (flagged J) for the site sample.

Calibration Verification:

Within Criteria	Exceedance/Notes
Y	



DATA VALIDATION CHECKLIST – STAGE 3

Method blanks:

Within Criteria	Exceedance/Notes
N	<u>TO-15 SIM</u> : Acetone and benzene were detected in the method blank. The sample results were > than 10× the amount in the blank; therefore, no qualifications were applied.

Field blanks:

Within Criteria	Exceedance/Notes
NA	

Interference Check Samples (ICS) (ICP metals only):

Within Criteria	Exceedance/Notes
NA	

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
Y	

MS/MSD:

Within Criteria	Exceedance/Notes
NA	

Post digestion spikes:

Within Criteria	Exceedance/Notes
NA	



DATA VALIDATION CHECKLIST – STAGE 3

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Serial dilutions:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
NA	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
Y	

Sample dilutions:

Within Criteria	Exceedance/Notes
NA	

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	



DATA VALIDATION CHECKLIST – STAGE 3

Second column confirmation (GC and HPLC analyses only):

Within Criteria	Exceedance/Notes
NA	

Internal Standards:

Within Criteria	Exceedance/Notes
Y	

Target analyte identification:

Within Criteria	Exceedance/Notes
Y	

Analyte quantitation and MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Sample results were verified; results were found to be acceptable. Refer to calculation verification spreadsheets. MDLs are not reported in the EDD or laboratory report. Nondetects are reported at the RL.

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
N	<u>TO-15</u> : The following TICs were identified in the site sample although the qualitative fit was less than 85: 2-methylpropane, n-butane, and n-nonanaldehyde. According to the NFG, these compounds could have been reported as unknowns. The reviewer did not change the TICs; however, the data user should be aware of the quality of the identification. The named TICs were qualified as tentatively identified and estimated (flagged NJ) and the unknown siloxane result was rejected by the reviewer (flagged R) as a system contaminant.

DATA VALIDATION CHECKLIST – STAGE 3

System performance and instrument stability:

Within Criteria	Exceedance/Notes
NA	

Other [specify]:

Within Criteria	Exceedance/Notes
NA	

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.



STAGE 3/4 DATA VALIDATION CHECKLIST FOR RECALCULATIONS

Data Package Number: P2103278

Validation Element	Objective	Sample ID, Run Date, and Run Time	Results (include units) and Notes (Use check mark to indicate correct result; include hand-calculated result if performed)
Initial Calibration	Confirm (in raw data) that an initial calibration begins each analytical sequence, before all QC or env. samples are analyzed, using the correct number of standards (and calibration blank, if required).	16 June 2021 instrument MS19 22:03- 17 June 2021 2:47 5-8-point calibration	See calibration spreadsheet
	Confirm (in raw data) that an initial calibration occurs at the required frequency.	Yes	
	Confirm that initial calibration criteria are met. Spot-recalculate initial calibration results.	reported 5.176 benzene	Calculated RRF: high-level 52000 ng std $(6308654 * 1000) / (23422 * 52000) = 5.1798$
			Calculated \overline{RRF} : See calibration spreadsheet
			Calculated %RSD: See calibration spreadsheet
<p>Recalculate at least one result (and %R or %D values, as appropriate) from each of the following QC samples and environmental samples, and compare your calculated results with the results the laboratory reports on their summary forms found earlier in the data package. They should agree. If they do not, then there may be problems with the package and further review is required. Note that for some QC samples, your comparison may mean simply confirming that the result reported in the summary form matches the result in the raw data – there may not be any calculation.</p> <p style="text-align: right;">SHOW ALL WORK FOR RECALCULATIONS</p>			
Tune	Confirm BFB Percent Relative Abundance	6/18/2021 2:33 mass 174 reported 98.1%	$6261/6385 * 100 = 98.0579\%$

STAGE 3/4 DATA VALIDATION CHECKLIST FOR RECALCULATIONS

Data Package Number: P2103278

Validation Element	Objective	Sample ID, Run Date, and Run Time	Results (include units) and Notes (Use check mark to indicate correct result; include hand-calculated result if performed)
ICV	Check result	S19061621 6/17/2021 4:22	See calibration spreadsheet
	Recalculate one RRF		
	Recalculate one %R		
A CCV applicable to our samples	Check result	S19061621 18 June 2021 2:55	See calibration spreadsheet
	Recalculate one RRF		
	Recalculate one %D		
Method Blank	Check result	06182105.D 18 June 4:30	acetone 75.740 benzene 6.807
Surrogate	Recalculate one %R	16 June 2021 21:10 RCF- EZ06-210617B F B reported 100%	1003.497/1000*100=100.3%
MS	Check result	N/A	
	Recalculate one %R	N/A	
MSD	Check result	N/A	
	Recalculate one %R	N/A	
	Recalculate one RPD value between MS and MSD	N/A	

STAGE 3/4 DATA VALIDATION CHECKLIST FOR RECALCULATIONS

Data Package Number: P2103278

Validation Element	Objective	Sample ID, Run Date, and Run Time	Results (include units) and Notes (Use check mark to indicate correct result; include hand-calculated result if performed)
LCS	Check result	S19061821 06182106.D 18 June 2021 5:02	See spreadsheet
	Recalculate one %R	benzene reported 94%	19.1/20.4*100=93.627% 957.283/1020 =92.38% (on column)
LCSD	Check result	NA	
	Recalculate one %R	NA	
	Recalculate one RPD value between LCS and LCSD	NA	
Internal Standards	Recalculate one %R	bromochloromethane RCF-EZ06-210616	13953/14417=96.7%
	Recalculate one delta RT	bromochloromethane RCF-EZ06-210617	9.61-9.61=0.00 min.
Sample Result for RCF- EZ06-210617 benzene	Check result	17 June 2021 16:42 Reported 2.9 ug/m3	See calibration spreadsheet
			1598.670*1.82=2.910 ug/m3
MDL for __ not reported in data__	Check result	NA	
RL for __RCF- EZ06-210617 benzene	Check result	reported 0.14 ug/m3	nominal MB RL 0.075 ug/m3 *1.82=0.1365
Convert µg/m ³ to ppbV (air only) for	Check result	2.9 ug/m3	0.9077583 ppbv lab reported 0.91 ppbv (rounding) (EPA On-line tools for Site Assessment Calculation)

ICAL TO-15SIM MS19 16May2021
Benzene

Input Calibration Data					Relative Errors in X					
Amount	Response	ISTD Amt	ISTD Resp	Rel. Resp.	Average	Linear (1/x2)	Linear (1/X)	Linear Forced	Linear	Quadratic
20.8	1965	1000.0	14862	132.22	22.81%	3.46%	16.47%	24.18%	299.03%	-732.09%
52.0	3991	1000.0	14496	275.32	2.29%	-2.98%	0.57%	3.43%	113.29%	-294.52%
104.0	7338	1000.0	15108	485.70	-9.77%	-10.59%	-10.04%	-8.77%	46.10%	-154.40%
520.0	36356	1000.0	14303	2541.84	-5.56%	-2.18%	-4.45%	-4.51%	6.35%	-27.17%
1040.0	70794	1000.0	14475	4890.78	-9.14%	-5.43%	-7.93%	-8.13%	-2.77%	-15.85%
5200.0	447681	1000.0	15809	28318.11	5.22%	10.00%	6.78%	6.39%	7.32%	11.15%
10400.0	936352	1000.0	17335	54015.11	0.35%	4.95%	1.85%	1.46%	1.85%	6.40%
26000.0	2679698	1000.0	21245	126133.11	-6.27%	-1.94%	-4.85%	-5.23%	-5.16%	-2.24%
52000.0	6308654	1000.0	23422	269347.37	0.08%	4.71%	1.59%	1.19%	1.14%	0.20%
RSE in X:					10.0%	6.7%	8.7%	10.2%	122.2%	328.6%

Curve Fit Statistics						Sample Results				
		1 st Degree	2 nd Degree							
		Constant	Coefficient	Coefficient	X-Intercept	r ²	r			
Weighted (1/Amt^2)										
Average			5.1759E+00		0	0.99920	0.99960			
Linear		2.5778E+01	4.9463E+00		-5.21	0.99748	0.99874			
Weighted (1/Amt)										
Linear		8.7023E+00	5.0984E+00		-1.71	0.99904	0.99952			
Unweighted										
Forced Zero			5.1189E+00		0	0.99933	0.99966			
Linear		-2.9331E+02	5.1269E+00		57.21	0.99907	0.99953			
Quadratic		7.5277E+02	4.7211E+00	8.3235E-06	-159.49	0.99954	0.99977			
		c	b	a						
Instrum. Responses:		ICV	CCV	LCS	RCF-EZ6					
IS Response:		76956	68791	65938	115454	68791				
Avg RF Result:		14950	14417	13308	13953	14417				
Linear(1/x2) Result:		994.532	921.879	957.283	1598.670	921.879				
Linear(1/x) Result:		1035.480	959.456	996.503	1667.659	959.456				
Linear(1/x) Result:		1007.943	934.186	970.128	1621.265	934.186				
Linear Forced:		1005.595	932.135	967.932	1616.454	932.135				
Linear Result:		1061.245	987.898	1023.640	1671.156	987.898				
Quad Result (no IS):										
Quad Result (with IS):		929.359	849.957	888.653	1588.764	849.957				

CHEMTOOL FIRE SITE - RS AIR ANALYTICAL RESULTS SUMMARY
ALS ENVIRONMENTAL REPORT NO. P2103278

Sample ID	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val_Result	Val_Qual
RCF-EZ06-210617	1,1,1-Trichloroethane	ND	ND	0.011	0.046	UG/M3	0.046	U
RCF-EZ06-210617	1,1,2,2-Tetrachloroethane	ND	ND	0.013	0.046	UG/M3	0.046	U
RCF-EZ06-210617	1,1,2-Trichloroethane	ND	ND	0.014	0.18	UG/M3	0.18	U
RCF-EZ06-210617	1,1,2-Trichlorotrifluoroethane	0.40	=	0.016	0.046	UG/M3	0.046	
RCF-EZ06-210617	1,1-Dichloroethane	ND	ND	0.011	0.046	UG/M3	0.046	U
RCF-EZ06-210617	1,1-Dichloroethene	ND	ND	0.016	0.046	UG/M3	0.046	U
RCF-EZ06-210617	1,2,4-Trichlorobenzene	ND	ND	0.024	0.091	UG/M3	0.091	U
RCF-EZ06-210617	1,2,4-Trimethylbenzene	0.28	=	0.015	0.18	UG/M3	0.28	
RCF-EZ06-210617	1,2-Dibromo 3-Chloropropane	ND	ND	0.017	0.18	UG/M3	0.18	U
RCF-EZ06-210617	1,2-Dibromoethane	ND	ND	0.014	0.046	UG/M3	0.046	U
RCF-EZ06-210617	1,2-Dichlorobenzene	ND	ND	0.015	0.046	UG/M3	0.046	U
RCF-EZ06-210617	1,2-Dichloroethane	0.049	=	0.015	0.046	UG/M3	0.049	
RCF-EZ06-210617	1,2-Dichloropropane	ND	ND	0.013	0.046	UG/M3	0.046	U
RCF-EZ06-210617	1,3,5-Trimethylbenzene	ND	ND	0.013	0.18	UG/M3	0.18	U
RCF-EZ06-210617	1,3-Butadiene	0.76	=	0.025	0.091	UG/M3	0.76	
RCF-EZ06-210617	1,3-Dichlorobenzene	ND	ND	0.015	0.046	UG/M3	0.046	U
RCF-EZ06-210617	1,4-Dichlorobenzene	ND	ND	0.015	0.046	UG/M3	0.046	U
RCF-EZ06-210617	1,4-Dioxane	ND	ND	0.015	0.18	UG/M3	0.18	U
RCF-EZ06-210617	2-Methylpropane	3.5	T			UG/M3	3.5	NJ
RCF-EZ06-210617	2-Methylpropene	4.8	T			UG/M3	4.8	NJ
RCF-EZ06-210617	Acetone	6.7	=	0.10	4.6	UG/M3	6.7	
RCF-EZ06-210617	Acrolein	0.50	=	0.071	0.36	UG/M3	0.50	
RCF-EZ06-210617	Benzene	2.9	=	0.036	0.14	UG/M3	2.9	
RCF-EZ06-210617	Bromodichloromethane	ND	ND	0.013	0.046	UG/M3	0.046	U
RCF-EZ06-210617	Bromomethane	ND	ND	0.017	0.046	UG/M3	0.046	U
RCF-EZ06-210617	Carbon Tetrachloride	0.34	=	0.022	0.046	UG/M3	0.34	
RCF-EZ06-210617	Chlorobenzene	ND	ND	0.017	0.18	UG/M3	0.18	U
RCF-EZ06-210617	Chloroethane	ND	ND	0.015	0.046	UG/M3	0.046	U
RCF-EZ06-210617	Chloroform	ND	ND	0.033	0.18	UG/M3	0.18	U
RCF-EZ06-210617	Chloromethane	0.25	=,V	0.035	0.091	UG/M3	0.25	J
RCF-EZ06-210617	cis-1,2-Dichloroethene	ND	ND	0.017	0.046	UG/M3	0.046	U
RCF-EZ06-210617	cis-1,3-Dichloropropene	ND	ND	0.011	0.091	UG/M3	0.091	U
RCF-EZ06-210617	Dibromochloromethane	ND	ND	0.016	0.046	UG/M3	0.046	U
RCF-EZ06-210617	Dichlorodifluoromethane (CFC 12)	1.9	=	0.031	0.091	UG/M3	1.9	

CHEMTOOL FIRE SITE - RS AIR ANALYTICAL RESULTS SUMMARY
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Sample ID	Analyte	Lab Result	Lab Qual	MDL	RL	Units	Val_Result	Val_Qual
RCF-EZ06-210617	Dichloromethane (Methylene Chloride)	0.29	=	0.024	0.18	UG/M3	0.29	
RCF-EZ06-210617	Ethylbenzene	0.37	=	0.018	0.18	UG/M3	0.37	
RCF-EZ06-210617	Hexachlorobutadiene	ND	ND	0.017	0.18	UG/M3	0.18	U
RCF-EZ06-210617	m,p-Xylenes	0.93	=	0.035	0.18	UG/M3	0.93	
RCF-EZ06-210617	Methyl tert-Butyl Ether	ND	ND	0.017	0.046	UG/M3	0.046	U
RCF-EZ06-210617	Naphthalene	0.64	=	0.029	0.18	UG/M3	0.64	
RCF-EZ06-210617	n-Butane	4.3	T			UG/M3	4.3	NJ
RCF-EZ06-210617	n-Nonaldehyde	2.8	T			UG/M3	2.8	NJ
RCF-EZ06-210617	n-Pentane	13	T			UG/M3	13	NJ
RCF-EZ06-210617	o-Xylene	0.38	=	0.016	0.18	UG/M3	0.38	
RCF-EZ06-210617	Styrene	0.35	=	0.013	0.18	UG/M3	0.35	
RCF-EZ06-210617	Tetrachloroethene	0.070	=	0.015	0.046	UG/M3	0.070	
RCF-EZ06-210617	Toluene	2.3	=	0.020	0.18	UG/M3	2.3	
RCF-EZ06-210617	trans-1,2-Dichloroethene	ND	ND	0.013	0.046	UG/M3	0.046	U
RCF-EZ06-210617	trans-1,3-Dichloropropene	ND	ND	0.010	0.091	UG/M3	0.091	U
RCF-EZ06-210617	Trichloroethene	ND	ND	0.015	0.046	UG/M3	0.046	U
RCF-EZ06-210617	Trichlorofluoromethane	1.0	=	0.027	0.091	UG/M3	1.0	
RCF-EZ06-210617	Unknown Siloxane	7.1	T			UG/M3	7.1	R
RCF-EZ06-210617	Vinyl Chloride	ND	ND	0.014	0.046	UG/M3	0.046	U